

AIR QUALITY PERMIT

Issued to: Hexion Specialty Chemicals, Inc. Permit #2836-04
3670 Grant Creek Road Administrative Amendment (AA) Request
Missoula, MT 59808 Received: 06/27/05
Department Decision on AA Issued: 08/15/05
Permit Final: 09/01/05
AFS #063-0021

An air quality permit, with conditions, is hereby granted to Hexion Specialty Chemicals, Inc. (Hexion) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

- A. Hexion operates a formaldehyde and thermoset production facility located at 3670 Grant Creek Road in Missoula, Montana. The legal description is the West ½ of Section 8, Township 13 North, Range 19 West, Missoula County. A listing of the equipment at the facility is contained in the permit analysis.
- B. Current Permit Action

On June 27, 2005, the Department of Environmental Quality (Department) received a request from Bordon Chemical, Inc. (BCI) to change its name to Hexion Specialty Chemicals, Inc. The permit will also be updated to reflect the current permit language and rule references used by the Department. Permit #2836-04 will replace Permit #2836-03.

SECTION II: Limitations and Conditions

- A. Operational Requirements
 - 1. Hexion shall operate and maintain all emission control equipment as specified in their application(s) for their Montana Air Quality Permit and all supporting documentation (ARM 17.8.749).
 - 2. The formaldehyde storage tank throughput shall be limited to 150,000,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).
 - 3. The methanol storage tank throughput shall be limited to 90,000,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).
 - 4. The phenol storage tank throughput shall be limited to 30,000,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).
 - 5. The formaldehyde shipments shall be limited to 30,000,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).
 - 6. The methanol shipments shall be limited to 200,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).

7. The storage and loading of high methanol 37% formaldehyde solutions shall be limited to 200,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).
8. The PF resin production shall be limited to 117,000,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).
9. The UF/UFC production shall be limited to 300,000,000 lb per 12-month rolling time period (ARM 17.8.1204(3)).
10. The natural gas consumed at the facility shall be limited to 100,000 MMBtu per 12-month rolling time period (ARM 17.8.1204(3)).
11. The methanol storage tank shall be vapor balanced with the rail cars to minimize working loss emissions (ARM 17.8.749).
12. Emissions of formaldehyde from the formaldehyde plant shall be routed to the tail gas boiler for combustion except for a period of time not to exceed 100 hr per 12-month rolling time period (ARM 17.8.749 and ARM 17.8.340).
13. Hexion shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Parts 60 and 65 as described below (ARM 17.8.340, 40 CFR Part 60, and 40 CFR Part 65).
 - a. 40 CFR 60, Subpart VV as it applies to the formaldehyde process; and
 - b. 40 CFR 65, Subpart D as it applies to the formaldehyde process.
14. The process gas boiler on the formaldehyde process shall be maintained to reduce emissions of Total Organic Carbon (TOC) by at least 98 weight-percent or to a concentration of less than 20 parts per million by volume (ppm), whichever is less stringent. As the boiler is a combustion device, the emission reduction or concentration shall be calculated on a dry basis and corrected to three percent oxygen (40 CFR 65, Subpart D).

B. Emission Limitations

Hexion shall not cause or authorize to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, emissions that exhibit an opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.304).

C. Operational Reporting Requirement

1. Hexion shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to; all sources of emissions identified in the most recent emission inventory report and sources identified Section I of the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request.

Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on the actual emissions from the facility, and/or to verify compliance with permit limitations. Hexion shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. Annual throughput from formaldehyde storage tank (lb/yr);
 - b. Annual throughput from methanol storage tank (lb/yr);
 - c. Annual throughput from phenol storage tank (lb/yr);
 - d. Annual formaldehyde shipments (lb/yr);
 - e. Annual methanol shipments (lb/yr);
 - f. Annual storage and loading of high methanol 37% formaldehyde solution (lb/yr);
 - g. Annual production of PF resin reactor (lb/yr);
 - h. Annual production of UF/UFC resin reactor (lb/yr);
 - i. Annual natural gas consumption from the facility (MMBtu/yr); and
 - j. Amount of time tail gas boiler was bypassed (hr).
2. Hexion shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
 3. Hexion shall document, by month, the formaldehyde, methanol, phenol, PF resin, natural gas, and UC/UCF usage. By the 25th day of each month, Hexion shall total the loading, storage, use, throughput, and production of materials, as specified, for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitations in Section II.A.2, II.A.3, II.A.4, II.A.5, II.A.6, II.A.7, II.A.8, II.A.9, II.A.10, and II.A.12. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
 4. All records compiled in accordance with this permit must be maintained by Hexion as a permanent business record for at least five years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
 5. Hexion shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required in ARM 17.8.1204 (3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Testing Requirements

1. The Department may require testing (ARM 17.8.105).
2. All compliance source tests must conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

SECTION III: General Conditions

- A. Inspection – Hexion shall allow the Department’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Hexion fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Hexion of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Hexion may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Permit Analysis
Hexion Specialty Chemicals, Inc.
Permit #2836-04

I. Introduction/Process Description

A. Site Location

The facility is located in the West ½ of Section 8, Township 13 North, Range 19 West, Missoula County, Montana.

B. Source Description

Hexion Specialty Chemicals, Inc. (Hexion) operates a formaldehyde and thermoset production facility located at 3670 Grant Creek Road in Missoula, Montana. The Missoula facility began operation in the early 1970's and is one of Hexion's international plants that produces forest product adhesives. Hexion produces custom made adhesives that are shipped to customers to be used to make plywood, particle board, medium density fiber board, and oriented-strand board.

The equipment associated with this facility, permitted under Permit #2836-04, includes, but is not limited to:

1. Formaldehyde Plant Tail Gas Boiler – This boiler is a 1970 Nebraska Water Tube boiler that is used to combust the tail gas from the formaldehyde plant.
2. Urea/Formaldehyde (UF) Resin Reactor – This 1970 batch reactor has a capacity of 17,000 gallons and is controlled by a packed column wet scrubber. A mechanical elevating device charges urea into the reactor.
3. Phenol/Formaldehyde (PF) Resin Reactor – This 1976 batch reactor has a capacity of 17,000 gallons and is controlled by a packed column wet scrubber.
4. Methanol Storage Tanks – The methanol storage tanks include a 250,000-gallon storage tank and a 90,000-gallon storage tank. Both tanks are fixed roof tanks and were manufactured in 1970. Vapor balancing with the rail car provides for some emission control.
5. Formaldehyde Storage Tanks – The formaldehyde storage tanks consist of two 100,000-gallon tanks and two 25,000-gallon tanks that are used for the storage of formaldehyde solution. All of these tanks are fixed roof tanks and were manufactured in 1970. Emissions from the tanks are controlled by a wet scrubber.
6. Distillate Storage Tanks – There are two 15,000-gallon fixed roof tanks used for the storage of distillate and both were manufactured in 1970.
7. Phenol Storage Tanks – There are two 25,000-gallon fixed roof tanks used to store phenol. Both tanks were manufactured in 1970 and are controlled by a wet scrubber.
8. Phenol Weigh Tank – The phenol weigh tank is a 1971 5000-gallon fixed roof scale tank that is used to weigh the phenol prior to charging it to the PF resin

- reactor. Emissions are controlled by the phenol storage tank wet scrubber.
9. Urea Scale – This scale is used to weigh prilled urea and is controlled by a packed column wet scrubber.
 10. Formaldehyde Weigh Tank – The formaldehyde weight tank is a 1971 15,000-gallon fixed roof scale tank that is used to weigh the formaldehyde prior to charging it to the PF resin reactor. Emissions are controlled by the formaldehyde storage tank wet scrubber.
 11. Resin Storage Tanks – The resin storage tanks include 21 fixed roof tanks ranging from 20,000 - 30,000 gallons that are used to store UF and PF resins. These tanks were manufactured in 1970.
 12. Methanol and Formaldehyde Loading – Methanol and formaldehyde solutions are loaded to trucks or rail. Emissions from the formaldehyde loading are controlled by the formaldehyde storage tank wet scrubber.
 13. Natural Gas-Fired Boiler – This boiler is a 1974 Cleaver Brooks natural gas-fired boiler with a steaming capability of 26,500 lb/hr.
 14. Fugitive Emissions – Fugitive emissions consist of miscellaneous sources of process fugitive emissions of methanol, formaldehyde and phenol from pumps, valves and flanges.

C. Permit History

On June 13, 1996, the Department of Environmental Quality (Department) issued Permit **#2836-00** to Borden Chemical, Inc. (BCI). The permit established federally enforceable limitations on Borden's Missoula facility to classify the facility as a synthetic minor source for the Title V Operating Permit Program. In addition, the limits allowed BCI to certify the Missoula facility as an area source under the Hazardous Organic NESHAP (HON) rule.

On October 3, 1998, the Department modified Permit **#2836-00** to include the 1997 addition of three 30,000-gallon phenolic resin tanks. In addition, the unit measurement for natural gas (cubic feet) was changed to MMBtu, where the value of 1 MMBtu is equal to 1000 cubic feet of natural gas. Permit **#2836-01** replaced Permit **#2836-00**.

On April 15, 2001, the Department modified Permit **#2836-01** to increase the production of UF/urea-formaldehyde concentrate (UFC) resins by enlarging resin kettle R100. This increase would change the operational limit for UF/UFC resin production from 200-million pounds per year to 300-million pounds per year. Although an operational limit was requested with this permit change, the facility remained classified as a synthetic minor source because the potential emissions remained below major facility threshold levels. Additional changes to the permit included the addition of a cyclone to charge urea into the kettle and a baghouse to control the release of dust. Permit **#2836-02** replaced Permit **#2836-01**.

On October 19, 2001, the Department received a request from BCI to modify Permit **#2836-02** to reflect the change to regulation under 40 CFR Part 65, Subpart D and its associated requirements instead of the currently noted 40 CFR Part 60, Subparts III and RRR in accordance with the Consolidated Federal Air Rules. In addition, BCI requested to eliminate references to "a cyclone to charge urea into the reactor and a baghouse to control the release of dust," as a mechanical elevating device has replaced the need for

that equipment in charging urea into the reactor. Permit #2836-03 replaced Permit #2836-02.

D. Current Permit Action

On June 27, 2005, the Department received a request from BCI to change its name to Hexion Specialty Chemicals, Inc. The permit will also be updated to reflect the current permit language and rule references used by the Department. Permit #2836-04 will replace Permit #2836-03.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations, or copies where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Hexion shall comply with all requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than four hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate
5. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Hexion must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over six consecutive minutes.
2. ARM 17.8.308 Particulate Matter - Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Hexion shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR 60.
- D. ARM 17.8, Subchapter 5 - Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. The current permit action is considered an administrative permit action and does not require an application fee.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. This air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.
- An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.
- E. ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year (TPY) of any pollutant. While Hexion does not have the PTE more than 25 TPY of any pollutant, Hexion was required to obtain an air quality permit because the facility had the PTE more than 10 TPY of a HAP. Therefore, Hexion was required to obtain an air quality permit and took permit limitations to keep from becoming a Title V source under the HON rule.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Hexion was not required to submit a permit application for the current permit action because the change is considered administrative. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Hexion was not required to submit a public notice for the current permit action because the change is considered administrative.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Hexion of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than one year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement

contained in the Montana State Implementation Plan (SIP).

14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

Hexion is not a major stationary source because it has accepted permit conditions and limitations and does not have the PTE more than 100 tons per year as a listed source (excluding fugitive emissions) of any air pollutant. Hexion is classified as a chemical process plant, which is a listed source category under PSD.

The current permit action is considered an administrative permit action and does not involve any increase in emissions.

G. ARM 17.8, Subchapter 12 - Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:
 - a. PTE > 100 ton/year of any pollutant;
 - b. PTE > 10 ton/year of any one Hazardous Air Pollutant (HAP), PTE > 25 ton/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 ton/year of PM₁₀ in a serious PM₁₀ nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing air quality Permit #2836-04 for Hexion's Missoula facility, the following conclusions were made:

- a. The facility's PTE is less than 100 ton/year for any pollutant.
- b. The facility's PTE is less than 10 ton/year of any one HAP and less than 25 ton/year of all HAPs.
- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. The facility is not subject to any current NESHAP standards.
- e. The source is not a Title IV affected source nor a solid waste combustion unit.
- f. The source is not an EPA designated Title V source.

Hexion's Missoula facility is not subject to Title V Operating Permit requirements because federally enforceable limitations have been established that limit the sources' PTE below the major source threshold. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Hexion will be required to obtain an operating permit.

- g. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations, which limit that source's PTE.
 - i. In applying for an exemption under this section the owner or operator of the source shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
 - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

The Department has determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Analysis

A BACT determination is required for each new or altered source. Hexion shall install on the new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The current permit action is an administrative permit action and does not require a BACT analysis.

IV. Emission Inventory

Formaldehyde/Resin Production
Criteria Pollutants (HAPs listed separately below)
Ton/Year

Source	PM	PM ₁₀	NO _x	VOC	CO	SO _x
Natural gas-fired boiler	0.60	0.60	5.00	0.14	1.05	0.03
Urea Weigh Scale	0.69	0.69				
Total	1.29	1.29	5.00	0.14	1.05	0.03

* Note that this emissions inventory was initially developed in Permit #2836-03 and that the emissions from each operational process was calculated as follows:

Natural gas-fired boiler

PM Emissions:

Emission Factor: 12 lb/MMscf (AP-42, p. 1.4-4, Footnote c, 7/93)
Control Efficiency: 0%
Calculations: 12.0 lb/MMscf * 100 MMscf/yr = 1200.00 lb/yr
1200.00 lb/yr * 0.0005 ton/lb = 0.60 ton/yr

PM₁₀ Emissions (assume all particulate is PM₁₀):

Emission Factor: 12 lb/MMscf (AP-42, p. 1.4-4, Footnote c, 7/93)
Control Efficiency: 0%
Calculations: 12.0 lb/MMscf * 100 MMscf/yr = 1200.00 lb/yr
1200.00 lb/yr * 0.0005 ton/lb = 0.60 ton/yr

NO_x Emissions

Emission Factor: 100 lb/MMscf (AP-42, p. 1.4-5, Table 1.4-2, 7/93)
Control Efficiency: 0%
Calculations: 100.0 lb/MMscf * 100 MMscf/yr = 10000.00 lb/yr
10000.00 lb/yr * 0.0005 ton/lb = 5.00 ton/yr

VOC Emissions

Emission Factor: 2.784 lb/MMscf (AP-42, p. 1.4-6, Table 1.4-3, Footnote g, 7/93)
Control Efficiency: 0%
Calculations: 2.784 lb/MMscf * 100 MMscf/yr = 278.40 lb/yr
278.40 lb/yr * 0.0005 ton/lb = 0.14 ton/yr

CO Emissions

Emission Factor: 21 lb/MMscf (AP-42, p. 1.4-5, Table 1.4-2, 7/93)
Control Efficiency: 0%
Calculations: 21.0 lb/MMscf * 100 MMscf/yr = 2100.00 lb/yr
2100.00 lb/yr * 0.0005 ton/lb = 1.05 ton/yr

SO_x Emissions

Emission Factor: 0.6 lb/MMscf (AP-42, p. 1.4-5, Table 1.4-2, 7/93)
Control Efficiency: 0%
Calculations: $0.6 \text{ lb/MMscf} * 100 \text{ MMscf/yr} = 60.00 \text{ lb/yr}$
 $60.00 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.03 \text{ ton/yr}$

Urea Weigh Scale

Maximum Urea Used: 69000 ton/yr

PM Emissions:

Emission Factor: 0.1% of urea is particulate matter (Manufacturer specs. quantify as a trace)
or 2 lb/ton (AP-42, Table 6.14-1, 7/93, 0.19 lb/ton for urea bagging)
Control Efficiency: 99% (Wet Scrubber)
Calculations: $2.0 \text{ lb/ton} * 69000 \text{ ton/yr} = 138000.00 \text{ lb/yr}$
 $138000.00 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 69.00 \text{ ton/yr}$
 $69.00 \text{ ton/yr} * (1.00 - 0.99) = 0.69 \text{ ton/yr}$

PM₁₀ Emissions: Assume all particulate matter is PM₁₀.

Emission Factor: 0.1% of urea (Manufacturer specs. quantify as a trace)
or 2 lb/ton
Control Efficiency: 99% (Wet Scrubber)
Calculations: $2.0 \text{ lb/ton} * 69000 \text{ ton/yr} = 138000.00 \text{ lb/yr}$
 $168000.00 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 69.00 \text{ ton/yr}$
 $69.00 \text{ ton/yr} * (1.00 - 0.99) = 0.69 \text{ ton/yr}$

Hazardous Air Pollutants Ton/Year

	Formaldehyde	Methanol	Phenol
	-----	-----	-----
Maximum PTE at Synthetic Minor Limits	6.66	9.92	0.64
Maximum PTE with Existing Controls*	3.40	5.22	0.33

*not all existing controls are federally enforceable

HAZARDOUS AIR POLLUTANTS

(emission inventory at synthetic minor limits; therefore, existing controls NOT federally enforceable are not listed)

FORMALDEHYDE EMISSIONS

Formaldehyde tail gas boiler

Allowable Hours of Bypass: 100 hr/yr
Formaldehyde Bypass Emissions:
Emission Factor: 4.0 lb/hr (Formaldehyde Test on the Tail Gas Boiler at the Hexion Plant + 100%, p. 2, 8/5/92)
Control Efficiency: 0.0%
Calculations: $4.0 \text{ lb/hr} * 100 \text{ hr/yr} = 400.0 \text{ lb/yr}$
 $400.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.20 \text{ ton/yr}$
 $0.20 \text{ ton/yr} * (1.00 - 0.00) = 0.20 \text{ ton/yr}$

Formaldehyde Production Emissions:

Hours of operation: 8660 hr/yr
Emission Factor: 4.0 lb/hr (Formaldehyde Test on the Tail Gas Boiler at the Hexion Plant + 100%, p. 2, 8/5/92)
Control Efficiency: 98.0% (Combustion in a boiler)
Calculations: $4.0 \text{ lb/hr} * 8660 \text{ hr/yr} = 34640.0 \text{ lb/yr}$
 $34640.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 17.32 \text{ ton/yr}$
 $17.32 \text{ ton/yr} * (1.00 - 0.98) = 0.35 \text{ ton/yr}$

Formaldehyde Storage Emissions:

2 - 100000 gallon
2 - 25000 gallon
Max Production 150 MMlb/yr
Emission Factor: 2.60e-05 lb/lb (EPA TANKS)
Control Efficiency: 0.0%
Calculations: $0.000026 \text{ lb/lb} * 150 \text{ MMlb/yr} = 3900.0 \text{ lb/yr}$
 $3900.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 1.95 \text{ ton/yr}$
 $1.95 \text{ ton/yr} * (1.00 - 0.00) = 1.95 \text{ ton/yr}$

Formaldehyde Loading Emissions:

Max Production 30 MMlb/yr
Emission Factor: 1.40e-05 lb/lb (EPA TANKS)
Control Efficiency: 0.0%
Calculations: $0.000014 \text{ lb/lb} * 30 \text{ MMlb/yr} = 420.0 \text{ lb/yr}$
 $420.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.21 \text{ ton/yr}$
 $0.21 \text{ ton/yr} * (1.00 - 0.00) = 0.21 \text{ ton/yr}$

UF Resin Reactor Emissions:

Max Production 300 MMlb/yr
Emission Factor: 2.00e-05 lb/lb (Hexion 10/6/95 Submittal)
Control Efficiency: 0.0%
Calculations: $0.000020 \text{ lb/lb} * 300 \text{ MMlb/yr} = 6000.0 \text{ lb/yr}$
 $6000.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 3.00 \text{ ton/yr}$
 $3.00 \text{ ton/yr} * (1.00 - 0.00) = 3.00 \text{ ton/yr}$

UF Concentrate Production Emissions:

Max Production 2 MMlb/yr
Emission Factor: 4.00e-05 lb/lb (Hexion 10/6/95 Submittal)
Control Efficiency: 0.0%
Calculations: $0.000040 \text{ lb/lb} * 2 \text{ MMlb/yr} = 80.0 \text{ lb/yr}$
 $80.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.04 \text{ ton/yr}$
 $0.04 \text{ ton/yr} * (1.00 - 0.00) = 0.04 \text{ ton/yr}$

Distillate Collection Emissions:

Max Production 10 MMlb/yr
Emission Factor: 4.00e-07 lb/lb (Hexion 10/6/95 Submittal)
Control Efficiency: 0.0%
Calculations: $0.0000004 \text{ lb/lb} * 10 \text{ MMlb/yr} = 4.0 \text{ lb/yr}$
 $4.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.00 \text{ ton/yr}$
 $0.00 \text{ ton/yr} * (1.00 - 0.00) = 0.00 \text{ ton/yr}$

Distillate Storage Emissions:

Max Production 10 MMlb/yr
Emission Factor: 4.00e-07 lb/lb (EPA TANKS)
Control Efficiency: 0.0%
Calculations: $0.0000004 \text{ lb/lb} * 10 \text{ MMlb/yr} = 4.0 \text{ lb/yr}$
 $4.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.00 \text{ ton/yr}$
 $0.00 \text{ ton/yr} * (1.00 - 0.00) = 0.00 \text{ ton/yr}$

PF Resin Reactor Emissions:

Max Production 117 MMlb/yr
Emission Factor: 4.00e-07 lb/lb (Hexion 10/6/95 Submittal)
Control Efficiency: 0.0%
Calculations: $0.0000004 \text{ lb/lb} * 117 \text{ MMlb/yr} = 46.8 \text{ lb/yr}$
 $46.8 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.02 \text{ ton/yr}$
 $0.02 \text{ ton/yr} * (1.00 - 0.00) = 0.02 \text{ ton/yr}$

PF Resin Weigh Tank Emissions:

Max Production 46 MMlb/yr
Emission Factor: 2.60e-05 lb/lb (EPA TANKS)
Control Efficiency: 0.0%
Calculations: $0.0000260 \text{ lb/lb} * 46 \text{ MMlb/yr} = 1196.0 \text{ lb/yr}$
 $1196.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.60 \text{ ton/yr}$
 $0.60 \text{ ton/yr} * (1.00 - 0.00) = 0.60 \text{ ton/yr}$

Resin Storage Emissions:

Max Production 317 MMlb/yr
Emission Factor: 4.00e-08 lb/lb (Hexion 10/6/95 Submittal)
Control Efficiency: 0.0%
Calculations: $0.00000004 \text{ lb/lb} * 317 \text{ MMlb/yr} = 12.7 \text{ lb/yr}$
 $12.7 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$
 $0.01 \text{ ton/yr} * (1.00 - 0.00) = 0.01 \text{ ton/yr}$

Formaldehyde Prod. Fugitive Emissions:

Max Production 1 lb/yr
Emission Factor: 500 lb/lb (Hexion 1/16/01 Submittal)
Control Efficiency: 0.0%
Calculations: 500 lb/yr
 $500.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.25 \text{ ton/yr}$
 $0.25 \text{ ton/yr} * (1.00 - 0.00) = 0.25 \text{ ton/yr}$

Resin Prod. Fugitive Emissions:

Max Production 50 lb/yr
Emission Factor: SOCMI FACTOR (Hexion 10/6/95 Submittal)
Control Efficiency: 0.0%
Calculations: 50.0 lb/yr
 $50.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.03 \text{ ton/yr}$
 $0.03 \text{ ton/yr} * (1.00 - 0.00) = 0.03 \text{ ton/yr}$

METHANOL EMISSIONS

Methanol Storage Emissions:

1 - 250000 gal
1 - 90000 gal

Working Loss

Max Production 90 MMlb/yr
Emission Factor: 1.60e-04 lb/lb (EPA TANKS)
Control Efficiency: 90.0% (based on all railcars being equipped with piping connections capable of accepting the return of vapors from methanol tanks)
Calculations: $0.00016 \text{ lb/lb} * 90 \text{ MMlb/yr} = 14.40 \text{ lb/yr}$
 $14.40 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 7.20 \text{ ton/yr}$
 $7.2 \text{ ton/yr} * (1.00 - 0.90) = 0.72 \text{ ton/yr}$

Breathing Loss

Max Production 0.003 MMlb/yr
Emission Factor: 1.00e+00 lb/lb (EPA TANKS)
Control Efficiency: 0.0%
Calculations: $1.00 \text{ lb/lb} * 0.003 \text{ MMlb/yr} = 3000.0 \text{ lb/yr}$
 $3000.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 1.50 \text{ ton/yr}$
 $1.5 \text{ ton/yr} * (1.00 - 0.00) = 1.50 \text{ ton/yr}$

Formaldehyde Tail Gas Boiler

Methanol Bypass Emissions:

Max Production 100 hr/yr

Emission Factor:	3.30e+01 lb/hr	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$33.00 \text{ lb/lb} * 100 \text{ hr/yr} = 3300.0 \text{ lb/yr}$ $3300.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 1.65 \text{ ton/yr}$ $1.65 \text{ ton/yr} * (1.00 - 0.00) = 1.65 \text{ ton/yr}$	
Formaldehyde Production:		
Max Production	8660	hr/yr
Emission Factor:	3.30e+01 lb/hr	(Hexion 10/6/95 Submittal)
Control Efficiency:	98.0%	(Combustion in a Boiler)
Calculations:	$33.00 \text{ lb/lb} * 8660 \text{ hr/yr} = 285780.0 \text{ lb/yr}$ $285780.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 142.89 \text{ ton/yr}$ $142.89 \text{ ton/yr} * (1.00 - 0.98) = 2.86 \text{ ton/yr}$	
Formaldehyde Storage:		
Max Production	150	MMlb/yr
Emission Factor:	2.00e-06 lb/lb	(EPA TANKS)
Control Efficiency:	0.0%	
Calculations:	$0.000002 \text{ lb/lb} * 150 \text{ MMlb/yr} = 300.0 \text{ lb/yr}$ $300.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.15 \text{ ton/yr}$ $0.15 \text{ ton/yr} * (1.00 - 0.00) = 0.15 \text{ ton/yr}$	
Formaldehyde Loading:		
Max Production	30	MMlb/yr
Emission Factor:	1.20e-06 lb/lb	(EPA TANKS)
Control Efficiency:	0.0%	
Calculations:	$0.0000012 \text{ lb/lb} * 30 \text{ MMlb/yr} = 36.0 \text{ lb/yr}$ $36.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.02 \text{ ton/yr}$ $0.02 \text{ ton/yr} * (1.00 - 0.00) = 0.02 \text{ ton/yr}$	
UF/UFC Resin Production		
Max Production	300	MMlb/yr
Emission Factor:	9.00e-06 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000090 \text{ lb/lb} * 300 \text{ MMlb/yr} = 2700.0 \text{ lb/yr}$ $2700.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 1.35 \text{ ton/yr}$ $1.35 \text{ ton/yr} * (1.00 - 0.00) = 1.35 \text{ ton/yr}$	
PF Resin Production		
Max Production	117	MMlb/yr
Emission Factor:	2.00e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000200 \text{ lb/lb} * 117 \text{ MMlb/yr} = 2340.0 \text{ lb/yr}$ $2340.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 1.17 \text{ ton/yr}$ $1.17 \text{ ton/yr} * (1.00 - 0.00) = 1.17 \text{ ton/yr}$	
PF Resin Weigh Tank		
Max Production	46	MMlb/yr
Emission Factor:	2.00e-06 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000020 \text{ lb/lb} * 46 \text{ MMlb/yr} = 92.0 \text{ lb/yr}$ $92.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.05 \text{ ton/yr}$ $0.05 \text{ ton/yr} * (1.00 - 0.00) = 0.05 \text{ ton/yr}$	
Distillate Collection		
Max Production	10	MMlb/yr
Emission Factor:	1.00e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000100 \text{ lb/lb} * 10 \text{ MMlb/yr} = 100.0 \text{ lb/yr}$ $100.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.05 \text{ ton/yr}$ $0.10 \text{ ton/yr} * (1.00 - 0.00) = 0.05 \text{ ton/yr}$	
Distillate Storage		
Max Production	10	MMlb/yr

Emission Factor:	1.00e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000100 \text{ lb/lb} * 10 \text{ MMlb/yr} = 100.0 \text{ lb/yr}$ $100.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.05 \text{ ton/yr}$ $0.10 \text{ ton/yr} * (1.00 - 0.0) = 0.05 \text{ ton/yr}$	

Methanol Loading

Max Production	0.2	MMlb/yr
Emission Factor:	9.80e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000980 \text{ lb/lb} * 0.2 \text{ MMlb/yr} = 19.6 \text{ lb/yr}$ $19.6 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$ $0.01 \text{ ton/yr} * (1.00 - 0.00) = 0.01 \text{ ton/yr}$	

High MeOH 37% Solution Storage

Max Production	0.2	MMlb/yr
Emission Factor:	9.00e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000900 \text{ lb/lb} * 0.2 \text{ MMlb/yr} = 18.0 \text{ lb/yr}$ $18.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$ $0.01 \text{ ton/yr} * (1.00 - 0.0) = 0.01 \text{ ton/yr}$	

Load High MeOH 37% Solution Loading

Max Production	0.2	MMlb/yr
Emission Factor:	4.80e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000480 \text{ lb/lb} * 0.2 \text{ MMlb/yr} = 9.6 \text{ lb/yr}$ $9.6 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.00 \text{ ton/yr}$ $0.00 \text{ ton/yr} * (1.00 - 0.50) = 0.00 \text{ ton/yr}$	

Fugitive Emissions:

Max Production	1	lb/yr
Emission Factor:	6.50e+02 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$650.00 \text{ lb/lb} * 1 \text{ lb/yr} = 650.0 \text{ lb/yr}$ $650.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.33 \text{ ton/yr}$ $0.33 \text{ ton/yr} * (1.00 - 0.00) = 0.33 \text{ ton/yr}$	

PHENOL EMISSIONS

Phenol Storage

Max Production	30	MMlb/yr
Emission Factor:	2.00e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.0000200 \text{ lb/lb} * 30 \text{ MMlb/yr} = 600.0 \text{ lb/yr}$ $600.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.30 \text{ ton/yr}$ $0.30 \text{ ton/yr} * (1.00 - 0.00) = 0.30 \text{ ton/yr}$	

PF Resin Reactor

Max Production	117	MMlb/yr
Emission Factor:	2.00e-08 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.00000002 \text{ lb/lb} * 117 \text{ MMlb/yr} = 2.3 \text{ lb/yr}$ $2.3 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.00 \text{ ton/yr}$ $0.00 \text{ ton/yr} * (1.00 - 0.00) = 0.00 \text{ ton/yr}$	

Phenol Weigh Tank

Max Production	30	MMlb/yr
Emission Factor:	2.00e-05 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.00002000 \text{ lb/lb} * 30 \text{ MMlb/yr} = 600.0 \text{ lb/yr}$ $600.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.30 \text{ ton/yr}$ $0.30 \text{ ton/yr} * (1.00 - 0.00) = 0.30 \text{ ton/yr}$	

Resin Storage

Max Production	117	MMlb/yr
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Emission Factor:	1.30e-07 lb/lb	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	$0.00000013 \text{ lb/lb} * 117 \text{ MMlb/yr} = 15.2 \text{ lb/yr}$ $15.2 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$ $0.01 \text{ ton/yr} * (1.00 - 0.00) = 0.01 \text{ ton/yr}$	

Resin Production Fugitives

Max Production	50	lb/yr
Emission Factor:	SOCMI	(Hexion 10/6/95 Submittal)
Control Efficiency:	0.0%	
Calculations:	50.0 lb/yr $50.0 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.03 \text{ ton/yr}$ $0.03 \text{ ton/yr} * (1.00 - 0.00) = 0.03 \text{ ton/yr}$	

V. Air Quality Impacts

The Missoula area is currently a nonattainment area for PM₁₀ and CO. However, the current permit action is considered an administrative permit action and does not involve permitting any additional emissions. Therefore, the Department does not believe the current permit action will result in any adverse impacts to the local air quality.

VI. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VII. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an Environmental Assessment is not required.

Permit Analysis Prepared by: Ron Lowney

Date: July 22, 2005